

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A control unit for an electric power steering apparatus for applying a steering assist force ~~by a motor~~ to a steering system of a vehicle, via a motor, the control unit comprising:

a plurality of position detecting sensors, each for detecting a rotation position of the motor and outputting it as a binary output~~outputs~~;

a state function calculating means which calculates ~~a output value of a state function value repeatedly, for every~~ at a predetermined time interval, by inputting based on outputs of the plurality of position detecting sensors ~~to the state function, and which outputs the state function values~~; and

a judging means ~~to be input~~ which receives the output ~~values of the state function values~~, and determines and outputs a judgment result;

wherein the judging means comprises a storage means and a judgment table, which outputs the judgment result; and

wherein the judgment result is one of a clockwise rotation of the motor, a counterclockwise rotation of the motor, a stop of the motor, and an abnormality in the detection of the rotational direction of the motor~~which respectively continued through the predetermined~~

~~time, so as to judge a rotating direction of the motor and abnormality of rotating direction detection of the motor at one time.~~

2. and 3. (canceled).

4. (currently amended): The control unit for an electric power steering apparatus according to claim 1 ~~or 2~~, further comprising:

a relative steering angle calculating means for converting each of the clockwise rotation of the motor, the counterclockwise rotation of the motor, and the stop of the motor, obtained from the judging means, rotating direction into a numerical value, and integrating the numerical value repeatedly at the every predetermined time interval, to calculate and calculating a relative steering angle of one of a steering wheel relative steering angle or and a column relative steering angle.

5. (currently amended): The control unit for an electric power steering apparatus according to claim 4, further comprising:

a steering velocity calculating means for calculating a steering wheel steering velocity of a column steering velocity one of the steering wheel and the column, by using the steering wheel relative steering angle of one of the steering wheel and the column, respectively, or the column relative steering angle and the predetermined time interval.

6. (currently amended): The control unit for an electric power steering apparatus according to ~~any one of claims 1 to 5~~claim 1, wherein the position detecting sensors are ~~the~~ Hall sensors.